

WHAT IS CLAIMED IS:

- 1 1. A hybrid Media Gateway Control Function (MGCF)
2 in a packet-switched radio telecommunications network
3 that provides access to multimedia services for a mobile
4 terminal operating in a circuit-switched mode, said
5 hybrid MGCF comprising:
6 a circuit-switched (CS)-specific signaling mechanism
7 that exchanges CS-specific control signaling with a radio
8 access network serving the mobile terminal;
9 a Session Initiation Protocol (SIP) signaling
10 mechanism that exchanges SIP control signaling with the
11 packet-switched radio telecommunications network;
12 a converter that converts the CS-specific control
13 signaling received by the CS-specific signaling mechanism
14 into SIP control signaling, and sends the SIP signaling
15 to the SIP signaling mechanism; and
16 a switching control function that controls a Media
17 Gateway (MGW) to route media payload from the radio
18 access network to a destination.
- 1 2. The hybrid MGCF of claim 1 wherein the CS-
2 specific signaling mechanism is associated with a Mobile
3 Switching Center (MSC) Server functionality function
4 within the hybrid MGCF that mimics MSC Server
5 functionality.

1 3. The hybrid MGCF of claim 2 wherein the MSC
2 Server functionality function includes a radio handling
3 part for legacy base stations.

1 4. The hybrid MGCF of claim 2 wherein the SIP
2 signaling mechanism is associated with a SIP User Agent
3 functionality function within the hybrid MGCF that mimics
4 SIP User Agent functionality.

1 5. The hybrid MGCF of claim 4 wherein the
2 converter converts radio access network events reported
3 to the hybrid MGCF in CS-specific signaling messages into
4 SIP events in SIP signaling messages.

1 6. The hybrid MGCF of claim 5 wherein the SIP
2 signaling mechanism exchanges SIP control signaling with
3 a Call State Control Function (CSCF) that accesses
4 multimedia services for the mobile terminal.

1 7. The hybrid MGCF of claim 6 wherein the SIP User
2 Agent ensures that the SIP control signaling exchanged
3 with the CSCF mimics the control signaling that the CSCF
4 normally receives when accessing services for a mobile
5 terminal operating in the packet-switched mode.

1 8. The hybrid MGCF of claim 5 wherein the
2 switching control function controls the MGW to route
3 media payload from the radio access network to a
4 multimedia Internet Protocol (IP) network.

1 9. A third generation (3G) wireless telecom-
2 munications network providing access to multimedia
3 services to a mobile terminal operating in a circuit-
4 switched mode, said network comprising:

5 a radio access network (RAN) that provides the
6 mobile terminal with access to the 3G network;

7 a Media Gateway (MGW) that receives media payload
8 from the RAN and routes the payload to a destination;

9 a Call State Control Function (CSCF) that accesses
10 multimedia services for the mobile terminal; and

11 a hybrid Media Gateway Control Function (MGCF) that
12 comprises:

13 a circuit-switched (CS)-specific signaling
14 mechanism that exchanges circuit-switched control
15 messages with the RAN;

16 a converter that converts the circuit-switched
17 control messages received by the CS-specific signaling
18 mechanism into Session Initiation Protocol (SIP) control
19 messages; and

20 a SIP signaling mechanism that exchanges SIP
21 control signaling with the CSCF.

1 10. The 3G wireless telecommunications network of
2 claim 9 wherein the hybrid MGCF also includes a Mobile
3 Switching Center (MSC) Server functionality function that
4 mimics MSC Server functionality.

1 11. The 3G wireless telecommunications network of
2 claim 10 wherein the RAN includes a plurality of legacy
3 base stations, and the MSC Server functionality function
4 includes a radio handling part for the legacy base
5 stations.

1 12. The 3G wireless telecommunications network of
2 claim 10 wherein the hybrid MGCF also includes a SIP User
3 Agent functionality function that mimics SIP User Agent
4 functionality.

1 13. The 3G wireless telecommunications network of
2 claim 12 wherein the converter within the hybrid MGCF
3 converts radio access network events reported to the
4 hybrid MGCF in CS-specific signaling messages into SIP
5 events in SIP signaling messages.

1 14. The 3G wireless telecommunications network of
2 claim 13 wherein the SIP signaling mechanism within the
3 hybrid MGCF exchanges SIP control signaling with a Call
4 State Control Function (CSCF) that accesses multimedia
5 services for the mobile terminal.

1 15. The 3G wireless telecommunications network of
2 claim 14 wherein the SIP User Agent within the hybrid
3 MGCF ensures that the SIP control signaling exchanged
4 with the CSCF mimics the control signaling that the CSCF
5 normally receives when accessing services for a mobile
6 terminal operating in the packet-switched mode.

1 16. The 3G wireless telecommunications network of
2 claim 15 wherein the switching control function within
3 the hybrid MGCF controls the MGW to route media payload
4 from the radio access network to a multimedia Internet
5 Protocol (IP) network.